advancing the polishing pad relative to the table and the illumination site after planarizing the first substrate assembly; and

subsequently passing a light beam from the illumination site in the table through a second optically transmissive view site in the polishing pad to at least periodically impinge a second substrate assembly with the light beam and optically sense a surface condition of the second substrate assembly the second view site being located a second area of the elongated slot spaced apart from the first area.

43. (Amended) A method for planarizing microelectronic-device substrate assemblies, comprising:

removing material from a first substrate assembly by pressing the first substrate assembly against a planarizing surface of a polishing pad and moving the first substrate assembly with respect to the polishing pad;

initially passing a light beam from an illumination site in the table through an optically transmissive view site comprised of an elongated slot in the polishing pad to at least periodically impinge the first substrate assembly with the light beam and optically sense a surface condition of the first substrate assembly until the sensed surface condition indicates that the first substrate assembly has reached a desired endpoint;

advancing the polishing pad relative to the table and the illumination site after planarizing the first substrate assembly;

removing material from a second substrate assembly by pressing the second substrate assembly against the planarizing surface of the polishing pad and moving the second substrate assembly with respect to the polishing pad; and

subsequently passing a light beam from the illumination site in the table through another optically transmissive view site in the polishing pad that is located at a second area of the elongated slot spaced apart from the first area to at least periodically impinge the second substrate assembly with the light beam and optically sense a surface condition of the second substrate assembly until the sensed surface condition indicates that the second substrate assembly has reached a desired endpoint.

Please add new claims 46-79 as follows:

46. (New) A method of endpointing mechanical or chemical-mechanical planarization processing of microelectronic-device substrate assemblies, comprising:

initially passing a light beam from an illumination site in a table through a first optically transmissive view site in a polishing pad comprised of a plurality of openings arranged in line to at least periodically impinge a first substrate assembly with the light beam and optically sense a surface condition of the first substrate assembly, the first view site comprising a first discrete opening in the among the plurality of openings ;

advancing the polishing pad relative to the table and the illumination site after planarizing the first substrate assembly; and

subsequently passing a light beam from the illumination site in the table through a second optically transmissive view site in the polishing pad to at least periodically impinge a second substrate assembly with the light beam and optically sense a surface condition of the second substrate assembly the second view site comprising a second discrete opening spaced apart from the first discrete opening.

47. (New) The method of claim 40 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and a under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

wherein the first elongated slot in the planarizing medium alignable with the illumination site on the table and at least one orifice in the backing pad at least partially aligned with the opening in the planarizing medium.

48. (New) The method of claim 40 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a plurality of openings through the backing pad and arranged in a line aligned with the elongated slot through the planarizing medium.

49 (New) The method of claim 40 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

50. (New) The method of claim 40 wherein the polishing pad further comprises

an optically transmissive backing sheet having a top surface, an under surface, and a flat-topped ridge extending in the direction generally parallel to the pad travel path and alignable with the illumination site;

a backing pad attached to the under surface of the backing sheet;

wherein the planarizing medium comprises a first section of abrasive material disposed on the top surface of the backing sheet on one side of the ridge and a second section of abrasive material disposed on the top surface of the backing sheet on the other side of the ridge; and

wherein the first elongated slot extends through the planarizing medium between the first and second sections of abrasive material, the ridge being positioned in the first elongated

slot, and the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

51. (New) The method of claim 40 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing sheet.

52. (New) The method of claim 40 wherein the polishing pad further comprises, a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, wherein the optical pass-through system further comprises a second elongated slot through the backing pad aligned with the first slot through the planarizing medium.

53. (New) The method of claim 40 wherein the polishing pad further comprises a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, and the optical pass-through system further comprises a plurality of holes in which each hole of the plurality of holes is aligned with the first elongated slot.

54. (New) The method of claim 40 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, and wherein the planarizing medium is an abrasive layer having a resin and abrasive particles distributed in the resin, the planarizing medium being disposed on the top surface of the backing sheet.

55. (New) The method of claim 43 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and a under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

wherein the first elongated slot in the planarizing medium alignable with the illumination site on the table and at least one orifice in the backing pad at least partially aligned with the opening in the planarizing medium.

56. (New) The method of claim 43 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a plurality of openings through the backing pad and arranged in a line aligned with the elongated slot through the planarizing medium.

57. (New) The method of claim 43 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

58. (New) The method of claim 43 wherein the polishing pad further comprises

an optically transmissive backing sheet having a top surface, an under surface, and a flat-topped ridge extending in the direction generally parallel to the pad travel path and alignable with the illumination site;

a backing pad attached to the under surface of the backing sheet;

wherein the planarizing medium comprises a first section of abrasive material disposed on the top surface of the backing sheet on one side of the ridge and a second section of

abrasive material disposed on the top surface of the backing sheet on the other side of the ridge; and

wherein the first elongated slot extends through the planarizing medium between the first and second sections of abrasive material, the ridge being positioned in the first elongated slot, and the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

59 (New) The method of claim 43 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing sheet.

60. (New) The method of claim 43 wherein the polishing pad further comprises, a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, wherein the optical pass-through system further comprises a second elongated slot through the backing pad aligned with the first slot through the planarizing medium.

61. (New) The method of claim 43 wherein the polishing pad further comprises a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, and the optical pass-through system further comprises a plurality of holes in which each hole of the plurality of holes is aligned with the first elongated slot.

62. (New) The method of claim 43 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, and wherein the planarizing medium is an abrasive layer having a resin and abrasive particles distributed in the resin, the planarizing medium being disposed on the top surface of the backing sheet.

63. (New) The method of claim 46 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and a under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

wherein the first elongated slot in the planarizing medium alignable with the illumination site on the table and at least one orifice in the backing pad at least partially aligned with the opening in the planarizing medium.

64. (New) The method of claim 46 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a plurality of openings through the backing pad and arranged in a line aligned with the elongated slot through the planarizing medium.

65. (New) The method of claim 46 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

66. (New) The method of claim 46 wherein the polishing pad further comprises

an optically transmissive backing sheet having a top surface, an under surface, and a flat-topped ridge extending in the direction generally parallel to the pad travel path and alignable with the illumination site;

a backing pad attached to the under surface of the backing sheet;

wherein the planarizing medium comprises a first section of abrasive material disposed on the top surface of the backing sheet on one side of the ridge and a second section of abrasive material disposed on the top surface of the backing sheet on the other side of the ridge; and

wherein the first elongated slot extends through the planarizing medium between the first and second sections of abrasive material, the ridge being positioned in the first elongated slot, and the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

67. (New) The method of claim 46 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing sheet.

68. (New) The method of claim 46 wherein the polishing pad further comprises, a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, wherein the optical pass-through system further comprises a second elongated slot through the backing pad aligned with the first slot through the planarizing medium.

69. (New) The method of claim 46 wherein the polishing pad further comprises a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, and the optical pass-through system further comprises a plurality of holes in which each hole of the plurality of holes is aligned with the first elongated slot.

70. (New) The method of claim 46 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, and wherein the planarizing medium is an abrasive layer having a resin and abrasive particles distributed in the resin, the planarizing medium being disposed on the top surface of the backing sheet.

71. (New) A method for planarizing microelectronic-device substrate assemblies, comprising:

removing material from a first substrate assembly by pressing the first substrate assembly against a planarizing surface of a polishing pad and moving the first substrate assembly with respect to the polishing pad;

initially passing a light beam from an illumination site in the table through an optically transmissive view site comprised of a first of a plurality of openings arranged in line in the polishing pad to at least periodically impinge the first substrate assembly with the light beam and optically sense a surface condition of the first substrate assembly until the sensed surface condition indicates that the first substrate assembly has reached a desired endpoint;

advancing the polishing pad relative to the table and the illumination site after planarizing the first substrate assembly;

removing material from a second substrate assembly by pressing the second substrate assembly against the planarizing surface of the polishing pad and moving the second substrate assembly with respect to the polishing pad; and

subsequently passing a light beam from the illumination site in the table through another optically transmissive view site in the polishing pad comprising a second discrete opening spaced apart from the first discrete opening among the plurality of openings to at least periodically impinge the second substrate assembly with the light beam and optically sense a surface condition of the second substrate assembly until the sensed surface condition indicates that the second substrate assembly has reached a desired endpoint.

72. (New) The method of claim 71 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and a under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

wherein the first elongated slot in the planarizing medium alignable with the illumination site on the table and at least one orifice in the backing pad at least partially aligned with the opening in the planarizing medium.

73. (New) The method of claim 71 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a plurality of openings through the backing pad and arranged in a line aligned with the elongated slot through the planarizing medium.

74. (New) The method of claim 71 wherein the polishing pad further comprises:

an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface;

a backing pad attached to the under surface of the backing sheet; and

the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

75. (New) The method of claim 71 wherein the polishing pad further comprises

an optically transmissive backing sheet having a top surface, an under surface, and a flat-topped ridge extending in the direction generally parallel to the pad travel path and alignable with the illumination site;

a backing pad attached to the under surface of the backing sheet;

wherein the planarizing medium comprises a first section of abrasive material disposed on the top surface of the backing sheet on one side of the ridge and a second section of abrasive material disposed on the top surface of the backing sheet on the other side of the ridge; and

wherein the first elongated slot extends through the planarizing medium between the first and second sections of abrasive material, the ridge being positioned in the first elongated slot, and the optical pass-through system further comprises a second elongated slot through the backing pad and aligned with the first elongated slot through the planarizing medium.

76. (New) The method of claim 71 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing sheet.

77. (New) The method of claim 71 wherein the polishing pad further comprises, a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, wherein the optical pass-through system further comprises a second elongated slot through the backing pad aligned with the first slot through the planarizing medium.

78. (New) The method of claim 71 wherein the polishing pad further comprises a backing pad having a top surface and an under surface, the planarizing medium being disposed on the top surface of the backing pad, and the optical pass-through system further comprises a plurality of holes in which each hole of the plurality of holes is aligned with the first elongated slot.

79. (New) The method of claim 71 wherein the polishing pad further comprises an optically transmissive backing sheet having a top surface and an under surface, and wherein the planarizing medium is an abrasive layer having a resin and abrasive particles distributed in the resin, the planarizing medium being disposed on the top surface of the backing sheet.

REMARKS

Claims 40-45 were pending in the application. Claims 41, 42, 44 and 45, are canceled and add new claims 46-79 are added herein. Accordingly, claims 40, 43, and 46-79 are now pending. In the Office Action dated December 31, 2001, the Examiner rejected claims 40 and 43 under 35 U.S.C. § 102(a) as being unpatentable over U.S. Patent No. 6,045,439 to Birang *et al.* in view of U.S. Patent No. 5,997,384 to Blalock. Claims 41, 42, 44 and 45 were objected to as being dependent upon a rejected base claim but would be allowable in rewritten in independent for including all of the limitations of the base claim and any intervening claims. Reconsideration of the invention is therefore requested in light of the following remarks.

Applicant thanks Examiner Berry for indicating allowable subject matter and have amended the claims accordingly. More specifically, claim 40 has been amended to recite the elements of claim 41 and new claim 46 recites the elements of former claims 40 and 42. Likewise, new claim 43 has been amended to recite the elements of claim 44 and new claim 71 combines the elements of former claims 43 and 45. Accordingly, claims 40, 43, 46 and 71 are allowable base claims.

In addition, new claims 47-54, 55-62, 63-70 and 72-79 have been added as dependent sets for these new base claims, respectively. These added claims recite elements that further limit the polishing pad used in these method claims, analogously to the elements of the dependent claims allowed by the Examiner in the parent divisional application drawn to the device. Thus, these new dependent claims are also patentable.